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Familias, Pediatras y Adolescentes en la Red. Mejores padres, mejores hijos.

Alterations in children's growth

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Child growth is a dynamic process and to make a proper analysis about whether there are growth problems, the growth curve of each child must be assessed.

What are percentiles? The charts used for growth models of weight, size and cephalic perimeter are divided by means of percentiles. A percentile is a statistical concept that is used to account for child growth. A percentile can take values from 0 to 100.

What does it mean that a child has the size on percentile 40? Let's see an example. Let's think that our son's group 100 students, each with a different height and we set them in a row separated by different height, the shortest first and then the tallest. Our son's height corresponds to position 40 and statistics would say that his son is on percentile 40. This would mean that his height is normal and that, if we compare him to other classroom boys, his height is 40% below his classmates and 60% above their classroom boys

Does a child always have to grow on the same percentile basis? It is important not to have a high percentile or being in the percentile 50 but to grow in a more or less regular way around the same percentile. The problem would be if the child's height corresponded to a percentile which is lower than 3 and constantly. If your child's height is under percentile 3, it is very likely that your paediatrician initiates a study. Hence, following our previous examples, if a child's height is under percentile 3, this means that just 3% of children from their same age will have a lower height than him and a 97% will have a higher height.

If my paediatrician has said that my child has experienced a catch up in their growth, what does this mean? We want to explain that there is a recovery growth after a disease suffered by a child and that has limited their growth.

Sometimes children who are being studied because of growth alterations are asked for their bone age. How is this test made and which information gives us? Bone age is another element when assessing growth and refers to the speed in which the skeleton grows. A radiography of the wrist and left hand is made and it is compared to existing models for each age. Its result will be assessed taking into account the child's age, weight, height and pubertal development.

Are laboratory tests also made to diagnose growth alterations? After the clinical history, physical exploration and bone age, few children will need a more comprehensive study to explain the cause.

So, who are really short children? They are those whose height under percentile 3 or in the estimation of their target height it is observed that they will not reach the height which would correspond to their family in adulthood.

What are the main causes of children's low height? They can be divided into two groups: those who are short because they suffer from an illness and those who are short but are considered as normal children. The second case is the most frequent one.

Alterations in children's growth

How can short children with no growth problem exist? A group of these children would be considered familiar low height, they are short because their parents are short. The other group are children with slow growth and development. Their growth rhythm is low and when they are 12-13 years old, there is no growth acceleration typical from puberty and no sexual maturity is initiated. However, when they are 16-17 years old, pubertal changes begin and they reach a normal height. In 80% of the cases, they have familiar antecedents of similar growth.

Which diseases can cause low height? Apart from malnutrition and some chronic diseases there is a deficit in growth hormone, slow intrauterine growth and some genetic diseases as Turner syndrome.

When can we suspect of lack of growth hormone? In these children height in their birth is usually normal y they grow well for 1 or 2 years. Then, the speed of growth becomes slower. When they are 3-4 years old, their height is under percentile 3. Diagnosis must be confirmed by means of complicated blood analysis that are made by professionals who are experienced in different hospitals. If the lack of growth hormone is proven, it will be advised treatment growth hormone.

Is treatment with growth hormone dangerous? After a experience of nearly 40 years all over the world, we know that it does not have undesired effects in our patients.

What is slow intrauterine growth? The frequent height for children born when expected is higher than 47 cm. Those who have a lower size are those with slow intrauterine growth and affects children who have suffered from problems during pregnancy. In most of the situations there is a recovery in growth after birth. But in very rare occasions these children do not recover their height and when they are 4 they are short and can benefit from treatment with growth hormone.

MORE INFORMATION:

<http://www.aepap.org/familia/crecer.htm> [2]

http://www.who.int/childgrowth/standards/curvas_por_indicadores/en/index.html [3]